



## United States Standards for Grades of Frozen Salmon Steaks

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### Product description.

Frozen salmon steaks are clean, wholesome units of frozen raw fish flesh with normally associated skin and bone and are 2.5 ounces or more in weight. Each steak has two parallel surfaces and is derived from whole or subdivided salmon slices of uniform thickness which result from sawing or cutting dressed salmon perpendicularly to the axial length, or backbone. The steaks are prepared from either frozen or unfrozen salmon (*Oncorhynchus* spp.) and are processed and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product. The steaks in an individual package are prepared from only one species of salmon.

(a) *Species.* Frozen salmon steaks covered by this standard are prepared from salmon of any of the following species:

Silver or coho (*O. kisutch*).

Chum or keta (*O. keta*).

King, chinook, or spring (*O. tshawytscha*).

Red, sockeye (*O. nerka*).

Pink (*O. gorbuscha*).

### Styles

(a) *Style I-Random weight pack.* The individual steaks are of random weight and neither the individual steak weight nor the range of weights is specified. The steaks in the lot represent the random distribution cut from the head to tail of a whole dressed salmon.

(b) *Style II- Random weight combination pack.* The individual steaks are of random weight and neither the individual steak weight nor range of weights is specified. The steaks in the lot represent a combination of cuts from selected parts of the whole dressed salmon.

(c) *Style III - Uniform weight or portion pack.* All steaks in the package or in the lot are of a specified weight or range of weights.

### Grades

(a) “U.S. Grade A” is the quality of frozen salmon steaks that possess good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlined in the following sections the total score is not less than 85 points.

(b) “U.S. Grade B” is the quality of frozen salmon steaks that possess at least reasonably good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlines in the following sections the total score is not less than 70 points.



(c) “Substandard” is the quality of frozen salmon steaks that fail to meet the requirements of the “U.S. Grade B.”

### **Recommended dimensions**

(a) The recommended dimensions of frozen salmon steaks are not incorporated in the grades of the finished product since dimensions, as such, are not factors of quality for the purpose of these grades. However, the degree of uniformity of thickness among units of the finished product is rated since it is a factor affecting the quality and utility of the product.

(b) It is recommended that the thickness (smallest dimension) of individually frozen salmon steaks be not less than ½ inch and not greater than 1½ inches.

### **Ascertaining the grade**

The grade is ascertained by observing the product in the frozen, thawed, and cooked states and is determined by consideration of the following:

(a) *Factors rated by score points.* The quality of the product with respect to all factors is scored numerically. Cumulative point deductions are assessed for variations of quality for the factors in accordance with the schedule in Table I, in the frozen, thawed, and cooked states. The total deduction is subtracted from the maximum possible score of 100 to obtain the “product score.”

(b) *Factors governed by “limiting rule”.* The factors of flavor and odor, in addition to being rated by score points, are further considered for compliance with the “limiting rule” grade requirements of flavor and odor in Table I, as defined under Definitions.

(c) *Determination of the final Product grade.* The final product grade is derived on the basis of both the “product score” and the “limiting rule” grade requirements of flavor and odor, per Table I.

### **Definitions**

(a) “Slight” refers to a defect that is scarcely noticeable and may not affect the appearance, the desirability, and/ or eating quality of the steaks.

(b) “Moderate” refers to a defect that is conspicuously noticeable (not seriously objectionable) and does not seriously affect the appearance, desirability and/or eating quality of the steaks.

(c) “Excessive” refers to a defect that is conspicuously noticeable (seriously objectionable) and seriously affects the appearance, desirability, and/or eating quality of the steaks.

(d) “Occurrence” is defined as each incidence of the same or different types of defects.

(e) “Cooked state” means that the thawed, unseasoned product has been heated within a boilable film-type pouch by immersing the pouch with product in boiling water for 10 minutes. Steaks cooked from the frozen state may require about two additional minutes of cooking.



(f) “Actual net weight” means the weight of the salmon steaks within the package after removal of all packaging material, ice glaze or other protective coatings.

(g) “Scored factors” (Table I):

- (1) “General appearance defects” refer to poor arrangement of steaks, distortion of steaks, wide variation in shape, between steaks greater than normal number of head and/or tail pieces, imbedding of packaging material into fish flesh, inside condition of package, frost deposit, excessive or non-uniform skin glaze, and undesirable level of natural color.
- (2) “Dehydration” refers to the appearance of a whitish area on the surface of a steak due to the evaporation of water or drying of the affected area.
- (3) “Uniformity of thickness” means that the steak thickness is within the allowed -inch manufacturing tolerance between the thickest and thinnest parts of the steaks within a package or sample unit.
- (4) “Uniformity of weight and minimum weight” is defined in Table I. (Portions are designated by “weight range” or “specified weight.” The “weight range” of portions bearing “specified weight” designation on containers shall be taken as the “specified weight” plus or minus 0.5 ounces unless otherwise specified.)
- (5) “Workmanship defects” refers to appearance defects that were not eliminated during processing and are considered objectionable or poor commercial practice. They include the following: Blood spots, bruises, cleaning (refers to inadequate cleaning of the visceral cavity from blood, viscera and loose or attached appendages), cutting (refers to irregular, inadequate, unnecessary, or improper cuts and/or trimmings), fins, foreign material (refers to any loose parts, of fish or other than fish origin), collar bone, girdle (refers to bony structure adjacent to fin), loose skin, pugh marks, sawdust and scales.
- (6) “Color defects”:
  - (i) “Discoloration of fat portion” means that the normal color of the fat shows increasing degrees of yellowing due to oxidation.
  - (ii) “Discoloration of lean portion” means that the normal surface flesh color has faded or changed due to deteriorative influences.
  - (iii) “Non-uniformity of color” refers to noticeable differences in surface flesh color on a single steak or between adjacent steaks in the same package or sample unit. It also includes color variation of the visceral cavity and skin watermarking.

(7) “Honeycombing” refers to the visible appearance on the steak surface of numerous discrete holes or openings of varying size.

(8) “Texture defect” refers to an undesirable increase in toughness and/or dryness, fibrousness, and watery nature of salmon examined in the cooked state.

(9) “Odor” and “flavor”:

- (i) “Good flavor and odor” (essential requirement for Grade A) means that the fish flesh has the good flavor and odor characteristic of the indicated species of salmon, and is free from rancidity and from off-flavors and off-odors.



- (ii) “Reasonably good flavor and odor” (minimum requirement for Grade B) means that the fish flesh may be somewhat lacking in the good flavor and odor characteristics of the indicated species of salmon, is reasonably free of rancidity, and is free from objectionable off-flavors and off-odors.
- (iii) “Substandard flavor and odor” (substandard grade) means that the flavor and odor fail to meet the requirements of “reasonably good flavor and odor.”

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**Tolerances for certification of officially drawn samples.**

The sample rate and grades of specific lots shall be certified on the basis of Part 260 Subpart A of this chapter, (Regulations Governing Processed Fishery Products).

**Score sheet for frozen salmon steaks**

- Label.....
- Size and kind of container.....
- Container mark or identification.....
- Size of lot.....
- Number of packages per master carton.....
- Size of sample .....
- Number of steaks per container.....
- Product style.....
- Actual net weight...(ounces)...(lb.).....

Scored factors	Deductions
Frozen: General appearance defects. Dehydration glaze Uniformity of thickness Uniformity of weight  Thawed: Workmanship defects Color defects Honeycombing  Cooked: Texture Odor (Limiting rule-Table 1) Flavor (Limiting rule-Table 1)	
Total deductions	
Product score (100-Total deductions)	
Flavor and odor rating	
Final Grade	



TABLE 1-SCHEDULE OF POINT DEDUCTIONS FOR FACTORS RATED BY SCORE POINTS<sup>1</sup>  
 [See footnotes at end of table.]

SCORED FACTORS	DESCRIPTION OF QUALITY VARIATION	DEDUCT	
<b>FROZEN</b>			
1. General appearance defects	Per occurrence: Slight..... Moderate..... Excessive.....	1-2 3-4 5-10	
2. Dehydration	(Per occurrence) for each 1 sq. inch of surface area	1	
3. Uniformity of thickness	For each 1/16 inch above ½-inch variation tolerance in steak thickness (max. deduction: 6 points).	2	
4. Uniformity of weight and minimum weight	Style I & II – Random weight. For each steak between 2.5 and 3.0 ounces in weight per package or per pound of product for packages over 1 pound net wt.	4	
	Style III – Uniform weight or portion. For each 0.1 ounce beyond the 0.1 ounce tolerance of the specified portion weight range per 5 lbs. of product.	1	
<b>THAWED</b>			
5. Workmanship defects: Blood spots, bruises, cleaning, cutting, fins, foreign material, collarbone, girdle, loose skin, pugh marks, sawdust, scales	Per occurrence: Slight..... Moderate..... Excessive.....	1 2-5 6-8	
6. Color defects: (a) Discoloration of fatty portion	Slight..... Moderate..... Excessive.....	1-5 3-5 6-10	
	(b) Discoloration of lean portion	Slight..... Moderate..... Excessive.....	1-2 3-5 6-10
	(c) Non-uniformity of color	Slight..... Moderate..... Excessive.....	1-2 3-4 5-6
7. Honeycombing	Percent sample are affected: 26 to 50..... 51 to 75..... 75 to 100.....	1 2 3	
	<b>COOKED</b>		
	8. Texture defect (tough, dry, fibrous, or watery)	Slight..... Moderate..... Excessive.....	1-2 3-5 6-10
9. Odor <sup>2</sup>	Good (A)..... Reasonably good (B)..... Substandard (S).....	0-2 3-5 6-15	
	10. Flavor: (a) Lean portion	Good (A)..... Reasonably good (B)..... Substandard (S).....	0-2 3-5 6-15
		(b) Fatty portion	Good (A)..... Reasonably good (B)..... Substandard (S).....



<sup>1</sup> This schedule of point deductions is based on the examination of sample units composed of: (a) An entire sample package and its contents (for retail sized packages) or (b) a representative sub-sample consisting of about one pound of salmon steaks taken from each sample package (for institutional sized packages), except that the entire sample package or its equivalent shall be examined for factor 4.

<sup>2</sup> “Limiting rule” grade requirements of flavor and odor: Salmon steaks which received over 5 deduction points for odor, or flavor of the lean, or flavor of the fatty portion, shall not be graded above substandard, and those which receive between 3 to 5 points shall not be graded above “U.S. Grade B,” regardless of the total product score. (This is a “limiting rule” based on flavor and odor as defined under definitions.

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